Does the speaker's voice quality influence children's performance on a language comprehension test?


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Abstract
A small number of studies have explored children's perception of speakers' voice quality and its possible influence on language comprehension. The aim of this explorative study was to investigate the relationship between the examiner's voice quality, the child's performance on a digital version of a language comprehension test, the Test for Reception of Grammar (TROG-2), and two measures of cognitive functioning. The participants were (n = 86) mainstreamed 8-year old children with typical language development. Two groups of children (n = 41/45) were presented with the TROG-2 through recordings of one female speaker: one group was presented with a typical voice and the other with a simulated dysphonic voice. Significant associations were found between executive functioning and language comprehension. The results also showed that children listening to the dysphonic voice achieved significantly lower scores for more difficult sentences (“the man but not the horse jumps”) and used more self-corrections on simpler sentences (“the girl is sitting”). This suggests that a dysphonic speaker’s voice may force the child to allocate capacity to the processing of the voice signal at the expense of comprehension. The findings have implications for clinical and research settings where standardized language tests are used.

Keywords
Voice perception, voice quality, children, cognitive capacity, working memory, occupational voice, language comprehension

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